

Alex Marion  
Director, Engineering  
Nuclear Generation Division  
Nuclear Energy Institute  
1776 I Street, NW, Suite 400  
Washington, DC 20006

SUBJECT: FINAL NRC ACTION ON PETITION FOR RULEMAKING PRM-50-71

Dear Mr. Marion:

In a letter dated April 12, 2000, the Nuclear Energy Institute (NEI) filed a petition for rulemaking requesting the Nuclear Regulatory Commission (NRC) to amend its regulations regarding hydrogen control systems at nuclear power plants. The petition was published in the *Federal Register* for public comment on May 31, 2000. The NEI requested that the NRC amend its regulations to allow nuclear power plant licensees to use zirconium-based cladding materials other than Zircaloy or ZIRLO, provided the cladding materials meet the requirements for fuel cladding performance and have been approved by the NRC staff. You believe the proposed amendment will improve the efficiency of the regulatory process by eliminating the need for individual licensees to obtain exemptions to use advanced cladding materials that have already been approved by the NRC.

Specifically, the NEI stated that the NRC's current regulations require uranium oxide fuel pellets used in commercial reactor fuel, to be contained in cladding material made of Zircaloy or ZIRLO. The requirement to use either of these materials is stated in 10 CFR 50.44 and 10 CFR 50.46. You noted that prior to promulgation of these regulations, commercial nuclear fuel vendors have developed and continue to develop materials other than Zircaloy or ZIRLO that NRC reviews and approves for use in commercial power reactor fuel. Each of these approvals requires the NRC to grant an exemption to the licensee who requests to use fuel with these cladding materials. You requested that NRC amend §50.44 and §50.46 of its regulations to allow licensees discretion to use zirconium-based cladding materials other than Zircaloy or ZIRLO, provided that the cladding materials meet the fuel cladding performance requirements and have been reviewed and approved by NRC staff. You noted that during the past 9 years there have been at least eight requests for exemptions, that each exemption has cost more than \$50,000, and that the requests for exemption have become increasingly more frequent, resulting in inefficiencies. You stated that the proposed amendment would remove an unwarranted licensing burden without increasing risk to public health and safety.

The Commission has evaluated the portion of your petition regarding the changes requested to 10 CFR 50.44 and the associated public comments, and has determined that portion of the petition should be denied. The issue regarding 10 CFR 50.44 is addressed in a final rule amending 10 CFR Part 50.44, "Combustible Gas Control in Containment." The regulation has been amended so that it does not refer to fuel with specific types of Zircaloy cladding; instead, the rule applies to all boiling and pressurized water reactor fuel. Thus, even though the revised rule does not contain the language changes that you requested, the rule accomplishes your intended purpose with respect to 10 CFR 50.44 by other means. Subheading VI, "Petition for Rulemaking PRM-50-71," of the enclosed *Federal Register* notice contains a detailed discussion of the 10 CFR 50.44 issue in your petition and the Commission's resolution of that issue. The portion of your petition that pertains to changes you requested to 10 CFR 50.46 will be evaluated separately by the Commission at a later time.

Sincerely,

Annette Vietti-Cook  
Secretary of the Commission

Docket: PRM-50-71

Enclosure: *Federal Register* Notice